

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Jeffrey Hubbell, Jason Schense, Andreas Zisch and Heike Hall

Serial No.: Continuation of 10/024,918 Art Unit: Not Yet Assigned

Filed: August 27, 2003 Examiner: Not Yet Assigned

For: *ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE
ENGINEERING*

Assistant Commissioner for Patents
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §1.56 and 37 C.F.R. §1.97, Applicants submit an Information Disclosure Statement, including eleven (11) pages of Form PTO-1449. All of the documents cited below were cited by or submitted to the Patent Office in Application Serial No. 10/024,918, filed December 18, 2001, to which the present application claims priority. Pursuant to 37 C.F.R. §1.98(d), Applicants are not enclosing copies of these publications. Copies will be provided upon request, however.

This Information Disclosure Statement is being filed under 37 C.F.R. § 1.97(b) prior to a first Office Action on the merits. It is believed that no fee is required with this submission. However, should a fee be required, the Commissioner is hereby authorized to charge any required fees to Deposit Account No. 50-1868.

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<u>Number</u>	<u>Issue Date</u>	<u>Patentee</u>	<u>Class/Subclass</u>
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<u>Number</u>	<u>Publication Date</u>	<u>Patentee</u>	<u>Country</u>
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Remarks

This statement should not be interpreted as a representation that an exhaustive search has been conducted or that no better art exists. Moreover, Applicants invite the Examiner to make an independent evaluation of the cited art to determine its relevance to the subject matter of the present application. Applicants are of the opinion that their claims patentably distinguish over the art referred to herein, either alone or in combination.

Respectfully submitted,



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Dated: August 27, 2003

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Sheet	1	of	11	Attorney Docket Number	CIT 2606 CIP CON

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		Office. ³	Number ⁴	Kind Code ⁵ (if known)				
		WO	89/00051		Cytrx Biopool Ltd.	01-12-1989		
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OTHER ART -- NON PATENT LITERATURE DOCUMENTS			
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	Continuation of 10/024,918
		Filing Date	August 27, 2003
		First Named Inventor	Jeffrey Hubbell
		Group Art Unit	
		Examiner Name	
Sheet 4 of 11	Attorney Docket Number	CIT 2606 CIP CON	

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		EDGAR, et al., "The heparin-binding domain of laminin is responsible for its effects on nuerite outgrowth and neuronal survival," <i>EMBO Journal</i> 3(7):1463-1468 (1984).	
		ELICEIRI & CHERESH, "The role of αv integrins during angiogenesis: insights into potential mechanisms of action and clinical development," <i>Journal of Clinical Investigation</i> 103:1227-1230 (1999).	
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		FENG, et al., "Roles for ephrins in positionally selective synaptogenesis between motor neurons and muscle fibers," <i>Neuron</i> 25:295-306 (2000).	
		FERRARA & ALITALO, "Clinical applications of angiogenic growth factors and their inhibitors," <i>Nature Medicine</i> 5:1359-1364 (1999).	
		FERRARA, "Molecular and biological properties of vascular endothelial growth factor," <i>J Mol Med</i> 77:527-543 (1999).	
		FOLKMAN, "Angiogenesis in cancer, vascular , rheumatoid and other disease," <i>Nature Medicine</i> 1:27-31 (1995).	
		GALE, et al., "Ephrin-B2 selectivity marks arterial vessels and neovascularization sites in the adult, with expression in both endothelial and smooth-muscle cells," <i>Developmental Biology</i> 230:151-160 (2001).	
		GÖTZ, et al., "Neurotrophin-6 is a new member of the nerve growth factor family," <i>Letter to Nature</i> 372:266-269(1994).	

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				First Named Inventor		Jeffrey Hubbell
				Group Art Unit		
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Sheet	5	of	11	Attorney Docket Number		CIT 2606 CIP CON

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		GRIESLER, et al., "Enhanced endothelial of expanded polyethrafluoroethylene grafts by fibroblast growth factor type 1 pretreatment," <i>Surgery</i> 112:244-255 (1992).	
		HALL, "Molecular properties of fibrin-based matrices for promotion of angiogenesis in vitro," <i>Microvascular Research</i> 62:315-326 (2001).	
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		HOULE & JOHNSON, "Nerve growth factor (NGF)-treated nitrocellulose enhances and directs the regeneration of adult rat dorsal root axons through intraspinal neural tissue transplants," <i>Neuroscience Letters</i> 103:17-23 (1989).	

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		First Named Inventor	Jeffrey Hubbell		
		Group Art Unit			
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		HUBBELL, "Bioactive biomaterials," <i>Curr Opin Biotech</i> 10:123-129 (1999).	
		HUMPHRIES, "Integrin activation: the link between ligand binding and signal transduction," <i>Curr Opin Cell Biol</i> 8:632-640 (1996).	
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		KINOSAKI, et al., "Identification of heparin-binding stretches of a naturally occurring deleted variant of hepatocyte growth factor (dHGF)," <i>Biochemical Biophysics Acta</i> 1384:93-102(1998).	
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		LEE, et al., "Analysis of affinity and structural selectivity in the binding of proteins to glycosaminoglycans: Development of a sensitive electrophoretic approach," <i>Biochemistry</i> 88:2768-2772 (1991).	
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		MONTGOMERY, et al., "Human neural cell adhesion molecule L1 and Rat homologue NILE are ligands for integrin $\alpha_v\beta_3$," <i>J Cell Biol</i> 132:475-485 (1996).	
		NEHLS & HERRMANN, "The configuration of fibrin clots determine capillary morphogenesis and endothelial cell migration," <i>Microvascular Research</i> 51:347-364 (1996).	
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		RUOSLAHTI & ENGVALL, "Perspectives series: Cell adhesion in vascular biology," <i>J Clin Invest</i> 99:1149-1152 (1997).	
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		SHIREMAN, et al., "Modulation of vascular cell growth by local cytokine delivery from fibrin glue suspensions," <i>J Vasc Surg</i> 19:852-62 (1999).	

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		SHUMACHER, et al., "Induction of neoangiogenesis in ischemic myocardium by human growth factors," <i>Circulation</i> 97:645-650 (1998).	
		SMITH, et al., "Rapid Identification of Highly Active and Selective Substrates for Stromelysin and Matrilysin Using Bacteriophage Peptide Display Libraries," <i>Journal of Biological Chemistry</i> 270(12):6440-6449 (1995).	
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				August 27, 2003	
				First Named Inventor	
				Jeffrey Hubbell	
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OTHER ART -- NON PATENT LITERATURE DOCUMENTS			
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		THOMPSON, et al., "Site-directed neovessel formation in vivo," <i>Science</i> 241:1349-1352 (1988).	
		TYLER-CROSS, et al., "Heparin binding domain peptides of antithrombin III: Analysis by isothermal titration calorimetry and circular dichroism spectroscopy," <i>Protein Science</i> 3:620-627 (1994).	
		WANG, et al., "Molecular distinction and angiogenesis interaction between embryonic arteries and veins revealed by ephrin-B2 and its receptor Eph-B4," <i>Cell</i> 93:741-753 (1998).	
		WEATHERFORD, et al., "Vascular endothelial growth factor and heparin in a biologic glue promotes human aortic endothelial cell proliferation with aortic smooth muscle cell inhibition," <i>Surgery</i> 433-439 (1996).	
		YAMADA, "Adhesive Recognition Sequences," <i>The Journal of Biological Chemistry</i> 266(20):12809-12812 (1991).	
		YANISH-PERRON, et al., "Improved M13 phage cloning vectors and host strains: nucleotide sequences of the M13mp18 and pUC19 vectors," <i>Gene</i> 33:103-119 (1985).	
		ZUCKER, et al., "Platelet Factor 4: Production, Structure, and Physiologic and Immunologic Action," <i>Proceedings for the Society of Experimental Biology and Medicine</i> 198:693-702 (1991).	

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